CURRENT LITERATURE.

BOOK REVIEWS.

The survival of the unlike.

THE making of books is easy to Professor Bailey, if one may judge from the number and rapidity with which they come from his pen. Besides new editions of the *Nursery book* and the *Horticulturist's rule-book*, the ink is hardly dry upon *Plant breeding* until the *Survival of the unlike* appears. The *Evolution of our native fruits* is said to be in press, and we are promised shortly a book on pruning, one on the apple, and a school text-book of botany! Professor Bailey is a living disproof of the doctrine that overproductiveness is at the expense of the quality of fruit.

The present book[1] has involved recently only the labor of revision, since it is a collection of essays which have been read from time to time in the last six years before various scientific bodies. All of them have been published before, but are scattered from Dan to Beersheba in all sorts of reports, proceedings, and journals. Were there nothing but the question of convenience involved it were well to bring them together.

But the botanist and horticulturist will find both interest and instruction in these essays. To the botanist they are particularly suggestive, for his studies too often cease at the garden fence. As a study in variation they bring to his attention many facts new to him, of which he would do well to take heed lest he teach theories which facts are against. Professor Bailey's thesis—it may almost be called—is this: "Heredity is an acquired force; normally and originally unlike produces unlike." He "denies the common assumption that organic matter was originally endowed with the power of reproducing all its corporeal attributes, or that, in the constitution of things, like produces like." Now this view is at first somewhat startling, but botanists know already many facts which support it, and Professor Bailey introduces many facts in the course of the essays to strengthen it.

In the second and third essays, respectively "Neo-Lamarckism and neo-Darwinism" and "The philosophy of bud variation," the author shows clearly the untenability of Weismann's germ-plasm theory as concerns plants. The latter essay is particularly striking in setting forth the idea that bud variation is not rare and exceptional, but common; that it is of great

[1] BAILEY, L. H.—The survival of the unlike: a collection of evolution essays suggested by the study of domestic plants. 12mo. pp. 515. figs. 21. New York: The Macmillan Co. 1896. $2.00.

importance in the production of new garden varieties (no less than 300 of such origin being grown at present in this country); and that it is of the same fundamental nature as seed variation. The key to this is to be found in the sentence, "The truth is . . . . that every branch or phyton is a bud variety, differing in greater or lesser degree from all other phytons on the same plant."

But the book must be read to be appreciated. There are too many fruitful ideas to permit discussion of them in detail. We have further space only to quarrel with two.

We doubt whether the idea of the phyton, of which the author makes a point, is of any real value, morphologically or physiologically. Will not rather the idea of the shoot, whether primary, secondary, or of higher order, answer Professor Bailey's purpose better? That shoots as a whole, and the phytons taken from different shoots, are unlike every one knows. But do noteworthy differences exist between the successive internodes of a shoot? It is not unlikely that our author would assent to this change, for we find him saying on p. 250, "We are bound to look upon every branch as in some sense a distinct individual, since it is unlike every other branch." Yet recently we found the conception of the phyton about to be introduced into an elementary book on botany for horticultural students "because Professor Bailey uses it in his writings." Wherefore the query.

There is one essay which we think the author would have done a service either by omitting or by radically altering, the one on sex in fruits. Professor Bailey, in an earlier part of this volume, reprints his note from *Science* on the "Untechnical terminology of the sex relation in plants," and reasserts his conviction that the ascription of sex-relations to the sporophyte by the use of sex terms is "perfectly proper," and often necessary for perspicuity. Of course he is entitled to this opinion, in spite of the botanists who hold it to be erroneous. But can he justify the use of sex terms correctly and (as he himself acknowledges) incorrectly in the same essay? And can he permit himself to reason regarding the evolution of sex from premises that are not only false but that are incomparable, as he does on pp. 347–9? Can such reasoning lead to "a perspicuous treatment of the subject"? We feel sure that when Professor Bailey gives this matter the consideration it deserves he will be as unwilling to have his philosophy shut in by the garden fence as he is desirous that botanists should not have theirs stop at it.—C. R. B.

MINOR NOTICES.

WE HAVE just received separates of two papers from the Transactions of the Kansas Academy of Science for 1893–4, one on the Erysipheæ of Riley county, Kansas, by Lora L. Waters, and the other a list of the grasses of Kansas, by Professor A. S. Hitchcock.